

REMARKS/ARGUMENTS

In the Office Action mailed December 5, 2008, claims 1, 11, and 12 were rejected and claims 2 – 10 were objected to, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In response, Applicant has amended claims 1, 2, 4 – 6, 9, 10, and 12, canceled claim 3, and added claims 13 – 20. Applicant hereby requests reconsideration of the application in view of the amendment and the below-provided remarks.

For reference, claims 1, 2, 4 – 6, 9, 10, and 12 have been amended to correct various typographical errors. No new matter has been added.

Allowable Subject Matter

Applicant appreciates the Examiner's review of and determination that claims 2 – 10 recite allowable subject matter. In particular, the Office Action states that claims 2 – 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant has added claim 20, which included all of the limitations of claims 1 and 3 as previously presented. Because new claim 20 includes all of the limitations of claims 1 and 3, as previously presented, Applicant asserts that claim 20 is in allowable condition.

Additionally, while the Office Action provides a statement of reasons for the indication of allowable subject matter, the Office Action's statement is directed to specific aspects of certain claims and not necessarily all of the claims. Applicant notes that the Office Action's comments may have paraphrased the language of the claims and it should be understood that the language of the claims themselves set out the scope of the claims. Thus, it is noted that the claim language should be viewed in light of the exact language of the claim rather than any paraphrasing or implied limitations thereof.

Claim Rejections under 35 U.S.C. 102 and 103

Claims 1, 11 and 12 were rejected under 35 U.S.C. 102(b) as being anticipated by Pascucci (U.S. Pat. No. 5,461,713). However, Applicant respectfully submits that these claims are patentable over Pascucci for the reasons provided below.

Independent Claim 1

Claim 1 recites in part:

“An integrated circuit device, comprising

...

...

a reference circuit coupled to the second input and arranged to controllably activate driving of a reference voltage at the second input

a timing circuit arranged to signal operation in a first phase, when the word lines have selected a row of the matrix, followed by a second phase, the timing circuit controlling the coupling circuit to permit charge sharing between the input and the selectable one of the bit lines in the first phase, and the timing circuit in the second phase controlling the coupling circuit to prevent said charge sharing, making the reference circuit deactivate driving the reference voltage, and activating amplification by the differential sense amplifier only when said charge sharing has been prevented and said driving has been deactivated.” (emphasis added)

As a preliminary matter, Applicant points out that the Office action does not indicate where Pascucci discloses a reference circuit as recited in claim 1. The Office action addresses the reference circuit limitation by simply repeating the exact claim language with no other explanation or support for the rejection. Applicants respectfully request that any subsequent Office action indicate where Pascucci discloses a reference circuit as recited in claim 1. Additionally, Applicant asserts that any subsequent Office action should not be made Final as Applicant will not have had a chance to address the rejection.

In the Office action, all of the limitations of the timing circuit are rejected under the logic “see detailed description.” No other support is provided to indicate where or how Pascucci discloses all of the limitations of the timing circuit as recited in claim 1.

Applicant asserts that claim 1 is not anticipated by Pascucci because Pascucci does not disclose a timing circuit as recited in claim 1. In particular, Applicant asserts that Pascucci does not disclose a timing circuit arranged to signal operation in a second phase that involves “making the reference circuit deactivate driving the reference voltage,”

and activating amplification by the differential sense amplifier only when said charge sharing has been prevented and said driving has been deactivated.”

In contrast to claim 1, the reference voltage of Pascucci is not deactivated. In particular, Fig. 2 of Pascucci illustrates that the reference voltage, BLR, is not deactivated. Because Pascucci does not disclose a second phase that involves “making the reference circuit deactivate driving the reference voltage, and activating amplification by the differential sense amplifier only when said charge sharing has been prevented and said driving has been deactivated,” Applicant asserts that claim 1 is not anticipated by Pascucci.

Additionally, Applicant points out that the timing circuit of claim 1 enables a read only memory matrix with a differential sense amplifier in which no reference bit line is needed to supply a reference voltage to the differential sense amplifier. (Applicant’s specification, page 2, lines 6 – 9) In describing the operation of the memory circuit, Applicant discloses:

“Thus, by preventing that the sense amplifier provides active amplification while a selected bit line shares charge with internal bit line part BL, and severing the connection between the selected bit line 102 and the internal bit line part BL prior to active amplification it, is made possible that a differential sense amplifier can be used with a reference circuit that does not need to have capacitive characteristics similar to those of the bit lines. In particular, a reference circuit can be used that does not contain a dummy bit line that extends in parallel with the bit lines of memory matrix 10 to provide a reference voltage. Thus, potential interference problems due to the such a dummy bit line are eliminated, and space and power consumption for generating the reference voltage are reduced.” (emphasis added) (page 7, line 33 – page 8, line 7)

That is, the limitations of the timing circuit enable a memory circuit that does not include a reference bit line that extends in parallel with the bit lines of the memory matrix. In contrast, Pascucci clearly discloses a memory matrix with a reference bit line that extends in parallel with the bit lines of the memory matrix, see Fig. 1B of Pascucci which shows the reference bit line that extends in parallel with the bit lines of the memory matrix.

Applicant asserts that dependent claim 11 is allowable at least based on an allowable base claim.

Independent Claim 12

Claim 12 recites a method of reading data from a read only memory matrix in an integrated circuit. The method recites the steps:

“signalling operation in a first phase, when the word lines have selected a row of the matrix, wherein the coupling circuit is controlled to permit charge sharing between the input and the selectable one of the bit lines followed by a second phase, wherein the coupling circuit is controlled to prevent said charge sharing, making the reference circuit deactivate driving the reference voltage, and activating amplification by the differential sense amplifier only when said charge sharing has been prevented and said driving has been deactivated.” (emphasis added)

In the Office action, all of the limitations of the above-identified steps are rejected under the logic “see detailed description.” No other support is provided to indicate where or how Pascucci discloses all of the limitations of the above-identified steps as recited in claim 12. Applicant asserts that claim 12 is not anticipated by Pascucci because Pascucci does not disclose a method that involves the above-identified steps as recited in claim 12. As described above with respect to claim 1, Applicant asserts that Pascucci does not disclose “making the reference circuit deactivate driving the reference voltage” in a second phase as recited in claim 12.

New claims 13 – 19 are dependent on claim 12 and are similar to claims 2 – 4 and 7 – 10, respectively. Applicant asserts that new claims 13 – 19 are allowable at least based on an allowable claim 12 or for the same reasons as claims 2 – 4 and 7 – 10.

CONCLUSION

Applicant respectfully requests reconsideration of the claims in view of the claim amendments and the remarks made herein. A notice of allowance is earnestly solicited.

At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account **50-4019** pursuant to 37 C.F.R. 1.25. Additionally, please charge any fees to Deposit Account **50-4019** under 37 C.F.R. 1.16, 1.17, 1.19, 1.20 and 1.21.

Respectfully submitted,

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